REMARKS

The present application was filed on November 26, 2003 with claims 1-18. Claims 1 and 16-18 are the independent claims.

In the outstanding Office Action dated April 17, 2007, the Examiner: (i) rejected claims 1 and 16-19 under 35 U.S.C. §112, first paragraph; (ii) rejected claims 1-4, 6-14 and 16-19 under 35 U.S.C. §102(e) as being anticipated by U.S. Patent No. 6,697,799 (hereinafter "Neal"); and (iii) rejected claims 12-14 under 35 U.S.C. §103(a) as being unpatentable over Neil in view of Handschuh et al. article entitled "S-CREAM – Semi-Automatic Creation of Metadata" (hereinafter "Handschuh").

In this response, Applicants amend claim 1 and 16-19. Applicants respectfully request reconsideration of the present application in view of the amendment above and remarks below.

With regard to the §112, first paragraph rejection of claim 19, Applicants have amended claim 19 in an attempt to further define the subject matter intended to be claimed. Amended claim 19 recites that the user-proposed annotation is stored, when the user-proposed annotation matches the allowed annotation, such that the user-proposed annotation is useable in a subsequent match operation. Support for claim 19 is shown at page 6, line17 through page 7, line 3. The user-proposed annotation can be stored in history memory 108 along with other term matches. The history memory 108 may be used by the mediator, as explained therein, for subsequent match operations.

Accordingly, the rejection of claim 19 under §112, first paragraph, should be withdrawn.

Regarding the §112, first paragraph rejection of claims 1 and 16-18, Applicants respectfully traverse. The limitation, "the user need not consider any annotations when a single allowed annotation is automatically determined to match the user-proposed annotation, and when more than a single annotation is automatically determined to match the user-proposed annotation: (a) in a first mode, the user need only consider the matching allowed annotations and select one of the matching allowed annotations; and (b) in a second mode, the user need not consider any annotations but rather one of the allowed annotations is automatically selected," was added to independent claims 1 and 16-18 in Applicants' previous amendment. Support for the added limitation is shown at page 8,

lines 16-27 and page 10, lines 15-18. FIG. 2 shows a single match example of the annotation methodology implemented in the mediator component. The example illustrates similar system components as shown in FIG. 1, namely, an annotator 200, annotation "dog" 202, a mediator 204, allowed annotations A 213 (including annotations "animal" 214 and "eagle" 216"). The matching of the user input term "dog" 202 and the allowed annotation "animal" 214 is achieved as follows. First, the node "dog" 208 in the term graph is determined by word stemming. Then, the same happens to find the node "animal" 210. Finally, a match is found by traversing the term graph along edge 209. Thus, the user need not consider any annotations when a single allowed annotation is automatically determined to match the user-proposed annotation. Still further, the invention can operate in an interactive and a non-interactive mode. In interactive mode, the user is prompted for feedback if more than one match is found (i.e., user consideration). In non-interactive mode, one match is automatically selected if more than one match is found (i.e., no user consideration).

Accordingly, the rejection of claims 1 and 16-18 under §112, first paragraph, should be withdrawn.

With respect to the §102(e) rejection, Applicants initially note that MPEP §2131 specifies that a given claim is anticipated "only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference," citing <u>Verdegaal Bros. v.</u> <u>Union Oil Co. of California</u>, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). Moreover, MPEP §2131 indicates that the cited reference must show the "identical invention . . . in as complete detail as is contained in the . . . claim," citing <u>Richardson v. Suzuki Motor Co.</u>, 868 F.2d 1226, 1236, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989). Applicants respectfully traverse the §102(e) rejection on the ground that the Neal reference fails to teach or suggest each and every limitation of claims 1-4, 6-14 and 16-19 as alleged.

Amended claim 1 is directed to a method of determining an annotation for a document, the method comprising the steps of: obtaining an annotation proposed by a user to be associated with the document; automatically determining, in accordance with a knowledge base containing allowed annotations, whether the user-proposed annotation matches one or more allowed annotations from the knowledge base; and annotating the document with an allowed annotation from the knowledge

base when the user-proposed annotation matches the allowed annotation from the knowledge base; wherein the user need not consider any annotations when a single allowed annotation is automatically determined to match the user-proposed annotation, and when more than a single annotation is automatically determined to match the user-proposed annotation: (a) in a first mode, the user need only consider the matching allowed annotations and select one of the matching allowed annotations; and (b) in a second mode, the user need not consider any annotations but rather one of the allowed annotations is automatically selected.

In characterizing the Neal reference as allegedly meeting certain limitations of claim 1, the Examiner relies primarily on col. 2 lines 23-28 and FIG. 8. However, the relied-upon portions of Neal fail to anticipate the limitations as alleged.

The Neal reference, in col. 2, lines 23-28, states the following:

The present invention allows an item to automatically be classified using its attributes based on a classification schema and a knowledge base. The invention can include selecting a first attribute of the item, designating a first search strategy comprising the value of the first attribute applied to operate upon data records in a first database.

While Neal is directed to automatically classifying items by creating categories to group like items, like an electronic catalog in some form (see col. 3, lines 24-41), the claimed invention is patentably distinguishable from Neal.

The claimed invention is directed towards an improved technique for annotating documents, not classifying items by creating categories to group like items, as disclosed in Neal. That is, the claimed invention expressly recites the step of annotating the document with the allowed annotation. Neal does not annotate a document with an allowed annotation, or with classification information as the Office Action might otherwise assert.

In response to Applicants' arguments, the Examiner refers to Neal at column 3, lines 41-43 and FIG. 3, reference sign 17. Neal at column 3, lines 41-43 states "...the items can be tangible or intangible, documents, services, software or any other type of items capable of being described." However, the relied-upon portion of Neal does not teach or suggest annotating the document with an allowed annotation. In contrast, the relied-upon portion of Neal refers to describing items. In

addition, FIG. 3, reference sign 17 merely shows a classified item, and does not disclose the recited step of "annotating the document with an allowed annotation..."

Furthermore, Neal is silent to the annotation modes now recited in independent claims. That is, no where does Neal recite an annotation step wherein the user need not consider any annotations when a single allowed annotation is automatically determined to match the user-proposed annotation, and when more than a single annotation is automatically determined to match the user-proposed annotation: (a) in a first mode, the user need only consider the matching allowed annotations and select one of the matching allowed annotations; and (b) in a second mode, the user need not consider any annotations but rather one of the allowed annotations is automatically selected, as recited in the claimed invention.

The Examiner refers to column 11, lines 48-56 of Neal as disclosing the annotation modes. Neal, at column 11, lines 48-56 states as follows (with emphasis supplied):

> The determination as to whether or not to automatically classify an item can be made using thresholds. The thresholds can be made configurable by a system manager depending upon the need for accuracy as balanced against the amount of operator interaction desired. In this approach, the confidence score at each search view is compare to a configurable threshold. If the score is above the threshold, then it is automatically classified. If it is below the threshold, then it is submitted to a user for human review and selection.

Automatically classifying an item when the confidence score is above the configurable threshold does not teach or suggest automatically selecting an allowed annotation when more than a single annotation is automatically determined to match the user-proposed annotation. Furthermore, submitting to a user for human review and selection when the confidence score is below the configurable threshold does not teach or suggest the user considering the matching allowed annotations and selecting one of the matching allowed annotations when more than a single annotation is automatically determined to match the user-proposed annotation.

Accordingly, it is believed that the teachings of Neal fail to meet the limitations of claim 1.

Independent claims 16-18 include limitations similar to those of claim 1, and are therefore believed allowable for reasons similar to those described above with reference to claim 1.

Dependent claims 2-4, 6-14 and 19 are believed allowable for at least the reasons identified with regard to claim 1. One or more of these claims are also believed to define separately-patentable subject matter over the cited art.

Dependent claim 4 is directed to notifying the user that the user-proposed annotation matches more than one allowed annotation, when more than one match is found. The Examiner refers to reference number 820 in FIG. 8 of Neal as disclosing the limitations of claim 4. Reference number 820 refers to an autoclassification configuration that "may appear as a hierarchical tree with multiple levels for the database, search type, and attributes." See column 19, lines 52-54 of Neal. The autoclassification configuration of Neal is not the same as the limitation of notifying the user that the user-proposed annotation matches more than one allowed annotation, when more than one match is found in the claimed invention.

Accordingly, it is believed that the teachings of Neal fail to meet the limitations of claim 4.

Dependent claim 8 is directed to maintaining a history buffer of matches. Dependent claim 9 is directed to the using the history buffer to update a set of allowed annotations. Dependent claim 10 is directed to using the history buffer to disambiguate matches.

Regarding dependent claims 8-10, the Examiner refers to FIG. 3 of the Neal reference as disclosing the limitations of claims 8-10. With regard to FIG. 3, Neal states the following at column 7, lines 8-18, with emphasis supplied:

> Referring to FIG. 3, the formatted unclassified content 13 is first filtered 31 through a <u>stop list or excluded words database 19</u>. It is then processed against the automatic classification knowledge database 21 or any other knowledge base in order to assign it to a category 15. This classification process is discussed in more detail with respect to FIGS. 4 and 5. The result is the classified content 17 of FIG. 1.
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> FIG. 3 shows how, in the process of classifying each item, the stop list 19 and the classification knowledge database 21 can be updated.

Illustrative embodiments of the invention allow for user entered terms to be stored together with their match in a history buffer, e.g., history memory 108. The history buffer may typically have limited size and may store the most recent matches. This has at least two advantages. First, the buffer allows determining "hot" and "cold" terms of the allowed annotations A for optimization of A's content. "Hot" terms are terms that are used very often, while "cold" terms are terms that are

used very rarely. Second, the buffer aides matching in case of ambiguities. See the present specification at page 10, lines 19-25.

It is thus clear that the elements of FIG. 3 of Neal, i.e., excluded words database 19, are not the same as the claimed features of the present invention.
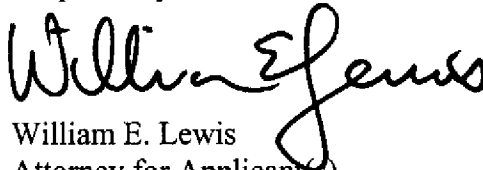
Accordingly, it is believed that the teachings of Neal fail to meet the limitations of claims 8-10.

With regard to the §103(a) rejection of claims 12-14, the Examiner looks to the Handschuh reference to supplement the deficiencies of Neal. Although Handschuh discloses a term graph, no where does Handschuh teach or suggest the limitations of determining a node in the at least one term graph that corresponds to the user-proposed annotation, determining at least one node in the at least one term graph that corresponds to the at least one allowed annotation, and computing a distance between the nodes as recited in claim 13, and no where does Handschuh teach or suggest of the node determination comprising a stemming operation as recited in claim 14. Furthermore, Handschuh does not supplement the above-noted deficiencies with regard to independent claim 1, from which claims 12-14 depend.

Accordingly, it is believed that the combined teachings of Neal and Handschuh fail to meet the limitations of claim 12-14.

In view of the foregoing, claims 1-4, 6-14 and 16-19 are believed to be in condition for allowance.

Respectfully submitted,

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